

CLAIMS

1. Method in a mobile telecommunication network (10) for providing a first radio network controlling unit (102a) with positioning information for a mobile terminal (22) located within a cell (20) and served by a radio base station (21) covering said cell (20), the cell is identifiable by means of a cell Geographical Area Information, GAI, the method is **characterised in** that it comprises the step of:
 - transmitting the Cell Portion GAI, which is associated with the cell portion (23) being a portion of the cell wherein the mobile terminal (22) is located, from a second radio network controlling unit (102b) that controls the resources of said radio base station (21) to the first radio network controlling unit (102a) that controls the connection of said radio base station (21) to the mobile station (22).
5. 2. The method according to claim 1, wherein the cell portion (23) is covered by one antenna beam transmitted from said radio base station (21), whereby the cell portion (23) is identifiable by identification of the antenna beam.
10. 3. The method according to claim 2, wherein each antenna beam covering a respective cell portion (23) is distinguished by means of a phase reference provided by a pilot channel or by a downlink dedicated physical channel comprising dedicated pilots.
15. 4. The method according to claim 3, wherein the pilot channel is the Secondary Common Pilot Channel (S-CPICH).
20. 5. The method according to any of claims 2-4, wherein the cell portion (23) covered by the antenna beam is determined by location points describing the geographical coordinates of said antenna beam.
25. 6. The method according to claim 1, wherein the cell portion (23) consists of an area that extends from the Radio Base Station (21) to the cell border within a detected angle of arrival of signals from the mobile terminal.
30. 7. The method according to any of claims 1-6, wherein the mobile telecommunication network (10) is a UMTS network and the first radio network

controlling unit (102a) is a first Radio Network Controller, RNC, and the second radio network controlling unit (102b) is a second Radio Network Controller, RNC.

8. The method according to claim 7, wherein the first RNC (102a) is a serving RNC and the second RNC (102b) is a drift RNC.

5 9. The method according to claim 8, wherein the drift RNC transmits the Cell Portion GAI to the serving RNC over the Iur interface.

10. The method according to claim 9, wherein the Cell Portion GAI is an information element of the RNSAP-protocol.

10 11. A computer program product directly loadable into the internal memory of a computer within a radio network controlling unit, comprising the software code portions for performing the steps of any of claims 1-10.

15 12. A computer program product stored on a computer usable medium, comprising readable program for causing a computer, within a radio network controlling unit, to control an execution of the steps of any of the claims 1-10.

13. A resource controlling radio network controlling unit (102b) in a mobile telecommunication network (10) adapted to provide a connection controlling radio network controlling unit (102a) with positioning information for a mobile terminal (22) located within a cell (20) and served by a radio base station (21) covering said cell (20), whereby the cell is identifiable by means of a cell Geographical Area Information, GAI, **characterised in** that it comprises means for associating the cell portion (23) being a portion of the cell wherein the mobile terminal (22) is located with a Cell Portion GAI, and means for transmitting said 20 Cell Portion GAI to the connection controlling radio network controlling unit (102a) that controls the connection of said radio base station (21) to the mobile station (22).

14. A connection controlling radio network controlling unit (102a) in a mobile telecommunication network (10) that controls the connection between a mobile terminal (22), located within a cell (20), and a radio base station (21), covering said cell (20), is **characterised in** that it comprises means for receiving a Cell Portion GAI associated with the cell portion (23) being a portion of the cell wherein the mobile terminal (22) is located.

15. The connection controlling radio network controlling unit (102a) according to claim 14 or the resource controlling radio network controlling unit (102b) according to claim 13, wherein the cell portion (23) is covered by one antenna beam transmitted from said radio base station (21), whereby the cell portion (23) is identifiable by identification of the antenna beam.

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16. The connection controlling radio network controlling unit (102a) or the resource controlling radio network controlling unit (102b) according to claim 15, wherein each antenna beam covering a respective cell portion (23) is distinguished by means of a phase reference provided by a pilot channel or by a 10 downlink dedicated physical channel comprising dedicated pilots.

17. The connection controlling radio network controlling unit (102a) or the resource controlling radio network controlling unit (102b) according to claim 16, wherein the pilot channel is the Secondary Common Pilot Channel (S-CPICH).

18. The connection controlling radio network controlling unit (102a) or the 15 resource controlling radio network controlling unit (102b) according to any of claims 15-17, wherein the cell portion (23) covered by the antenna beam is determined by location points describing the geographical coordinates of said antenna beam.

19. The connection controlling radio network controlling unit (102a) or the 20 resource controlling radio network controlling unit (102b) according to claim 18, wherein the cell portion (23) consists of an area that extends from the Radio Base Station (21) to the cell border within a detected angle of arrival of signals from the mobile terminal.

20. The connection controlling radio network controlling unit (102a) or the 25 resource controlling radio network controlling unit (102b) according to any of claims 13-19, wherein the mobile telecommunication network (10) is a UMTS network and the connection controlling radio network controlling unit (102a) is a connection controlling Radio Network Controller, RNC, and the resource controlling radio network controlling unit (102b) is a resource controlling Radio Network Controller, RNC.

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21. The connection controlling radio network controlling unit (102a) or the resource controlling radio network controlling unit (102b) according to claim 20,

wherein the connection controlling RNC (102a) is a serving RNC and the resource controlling RNC (102b) is a drift RNC.

22. The connection controlling radio network controlling unit (102a) or the resource controlling radio network controlling unit (102b) according to claim 21,
5 wherein the drift RNC comprises means for transmitting the Cell Portion GAI to the serving RNC over the Iur interface.

23 The connection controlling radio network controlling unit (102a) or the resource controlling radio network controlling unit (102b) according to claim 22, wherein the Cell Portion GAI is an information element of the RNSAP-protocol.

10 24. A mobile telecommunication network **characterised** in that it comprises a resource controlling radio network controlling unit (102b) in accordance with any of claims 13, 15-23 and a connection controlling radio network controlling unit (102a) in accordance with any of claims 14-23 for performing the steps in accordance with any of claims 1-10.